

EXHIBIT C

(Part 2 of 2)

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other options considered by RCA researchers, was slower and more awkward than replaceable ROM. (Tr. 2384, 2534) In light of the evidence presented at trial, a reasonable jury could conclude that notwithstanding development of the FRED system, prior to development of the Alpex invention there remained a need for a flexible home video game system with fast and effective replaceable memory. The efforts of RCA researchers to solve problems relating to replaceable memory are probative not only of a recognized need, but also of failure by others to solve the problem addressed by the Alpex invention. In light of the foregoing, a reasonable jury could conclude that the Alpex invention satisfied a long-felt need in the industry and achieved what others had tried but failed. [FN16]

As I find substantial evidence to support the jury's findings with respect to these two considerations, I cannot overrule its findings. I am conscious, however, that there is substantial overlap in the evidence supporting these two considerations, and that their relevance to non-obviousness is somewhat duplicative. Accordingly, I will guard against the danger of double-counting these factors in my analysis of the ultimate question of obviousness.

*1191 3. *Departure from Accepted Principles.*

In addition to the foregoing, Nintendo also challenges the jury's conclusion that the Alpex invention represented a departure from accepted principles in the art. In support of the jury's conclusion, Alpex points to the deposition testimony of Mr. Lawson, an engineer, formerly of Fairchild Computer Corporation, the company that marketed the first commercial embodiment of the Alpex invention. Mr. Lawson testified, "Best I can recall, at one time, it was known throughout the industry that microprocessors would not be viable in video games," and that at least two companies in the industry indicated that they did not consider microprocessors viable for video games. This vague assertion is an insufficient basis for a finding of departure from industry principles. Mr. Lawson never identified a time frame, the industry, any particular people in the industry, or any accepted principles in the industry from which the Alpex invention departed. Moreover, other evidence at trial indicates that he could not have been speaking of the period of the Alpex invention. The testimony of every technical witness, including Mr. Milner and the Alpex inventors, indicates that many people in the industry were working toward development of a microprocessor-based video game system. As is discussed in greater detail below, articles in

Computer magazine and *People's Computer Company* magazine suggest that others may have achieved this portion of the Alpex invention prior to the invention date. Even if the Alpex inventors were the first to develop a microprocessor-based system, it is clear that it was not an unfamiliar principle in the art. In sum, I find insufficient evidence to support a finding of departure from industry principles. No reasonable jury could reach that conclusion. Accordingly, I overrule the jury's finding on this point and will give that finding no weight in my analysis of obviousness. [FN17] 4. *Copying by Others Including the Accused Infringer.*

Before and during trial, Nintendo asked the court to conclude, as a matter of law, that there was insufficient evidence that Nintendo copied the Alpex patent. I denied Nintendo's motions and sent the question of copying to the jury. Nintendo now renews its objections to the copying evidence in both its motions for judgment of invalidity as a matter of law and for a new trial. The evidence suggesting that Nintendo copied the '555 patent consisted of the following: Mr. Uemura, the head of Nintendo's R & D II Department had access to the '555 patent at the time the NES was developed there; Mr. Uemura was familiar with the patent, as reflected in his notes referencing it in conjunction with the Blockbuster patent; two of the engineers who designed the NES disassembled the Atari 2600 and Colecovision systems. Added to the foregoing evidence is the similarity between the Alpex invention and the NES that formed the basis of the jury's infringement finding. Countering the inference that arises from this evidence is the testimony of Mr. Nakagawa, a Nintendo engineer who worked on the NES, that he did not know anything about the Alpex patent when he was designing the NES, he did not refer to it or its Japanese counterpart when he was designing it, and as far as he knows, no one else did. He conceded, however, that during the relevant period there were 12 or 13 engineers working in the R & D II department, and he was away from the department for several months.

[6] In considering the foregoing evidence, I am mindful that on a motion for judgment as a matter of law, all inferences must be drawn in favor of the non-moving party. In light of this decisional rule, I determined at trial and remain convinced post-trial, that Alpex presented sufficient evidence to reach the jury on the question of copying. [FN18] Although there are legitimate reasons that the Nintendo engineers could have had access to the '555 patent, those reasons provided fodder for

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*1192 rebuttal, not a basis for exclusion of the evidence. I cannot conclude that no reasonable jury could have concluded that Nintendo copied the '555 patent.

5. *Skepticism.*

Nintendo claims that the jury erred as a matter of law in finding that the Alpex invention was greeted by skepticism among those of ordinary skill in the art. Alpex's proof on this point consists of Mr. Lawson's statements that, at one time, it had not been considered feasible to develop microprocessor-based video games, and the inventors' accounts of the reactions of television manufacturers to whom they demonstrated the invention. Nintendo argues that Mr. Lawson's statement was insufficiently specific to establish skepticism. As for the television manufacturers, Nintendo maintains that Alpex failed to establish that they were people of ordinary skill in the art or that their skepticism was a function of technological concerns.

For substantially the reasons noted in connection with the court's consideration of the "departure from accepted principles" factor, the court finds Mr. Lawson's testimony standing alone insufficient to support a finding of relevant skepticism. With respect to evidence of skepticism among television manufacturers, Alpex maintains that skepticism among those in the "industry" is sufficient, and that it need not show that the television manufacturers were people of ordinary skill in the art. Neither party cites a case explicitly addressing this issue. Nonetheless, in light of the fact that the purpose of the skepticism inquiry is to shed light on whether the invention would have been obvious to one of ordinary skill in the art, the court concludes that in the absence of a showing that the skeptics were people of ordinary skill in the art, evidence of their skepticism should be accorded little weight in the obviousness determination. In this case, Alpex has presented evidence that the skeptics included technical as well as non-technical representatives of television manufacturers. (Tr. 542) Moreover, Mr. Kirschner specifically testified that these technical representatives expressed skepticism. (Tr. 544- 46). To the extent that this skepticism was a function of their concern over obtaining requisite approvals from the Federal Communications Commission, it is irrelevant to the court's obviousness analysis. However, skepticism that these individuals expressed about the display technology and the use of microprocessors should be considered. The court is mindful that the full credentials of these "technical"

representatives were not established and will discount the evidence of skepticism accordingly. Nonetheless, determination of the level of skill in the art is a question of fact for the jury. See Graham, 383 U.S. at 17. Upon Nintendo's motion, the jury was specifically instructed that any relevant skepticism had to be on the part of those with ordinary skill in the art. (Tr. 3983-84) In light of this instruction and the substantial evidence noted above, the court cannot conclude that the jury's skepticism conclusion was reached in error as a matter of law. See Brooktree Corp. v. Advanced Micro Devices, Inc., 977 F.2d 1555, 1569 [24 USPQ2d 1401] (Fed. Cir. 1992) ("When there was sufficient evidence to support the verdict in light of the entire record, and upon correct or unobjected instructions of law, the jury's verdict must stand.").

6. *Simultaneous Invention.*

The court submitted to the jury one secondary consideration that goes to obviousness (as opposed to non-obviousness), i.e., simultaneous invention -- whether a person or group working independently of the inventors arrived at the same or essentially the same concept as the Alpex inventors at about the same time. The jury concluded that Nintendo had failed to prove simultaneous invention by clear and convincing evidence. Nintendo now asserts that this conclusion was reached in error as a matter of law. In support of this position, Nintendo claims that within six months to a year, researchers at Atari, Fairchild, and RCA had arrived at essentially the same concept as that disclosed in claims 12 and 13 of the '555 patent. In response, Alpex first distinguishes Mr. Lawson's work at Fairchild as not encompassing the entire Alpex invention. As for the other allegedly simultaneous inventions, Alpex notes that the earlier of these came at Atari a year after the Alpex invention, and that such a time lapse should not be considered "simultaneous" in light of the fast pace of development in the consumer electronics industry. A reasonable jury could have concluded that Mr. Lawson's arcade game was distinguishable from the Alpex invention. Similarly, the jury could have reasonably concluded that in the context of the consumer electronics industry, inventions occurring approximately a year apart are not achieved at "about the same time." Accordingly, the court declines to find the jury's conclusion of no simultaneous invention erroneous as a matter of law. This and the other secondary considerations supported by substantial evidence will factor *1193 into the court's analysis of the question of obviousness.

D. *Obviousness.*

[7] Assuming the jury to have made the foregoing, reasonable findings with respect to the presence of secondary considerations and the scope and relevance of the prior art, the court addresses the ultimate legal question of obviousness. To recount, first, the court finds substantial evidence supporting the jury's conclusion that the date of invention for the invention claimed in claims 12 and 13 of the Alpex patent is on or before July 21, 1974. Accordingly, the jury could have permissibly excluded the *Computer* magazine article from the prior art. Second, the court finds that a jury could reasonably find the prior art, including the *Computer* magazine article, distinguishable from the Alpex invention and less relevant than the prior art considered by the PTO. Finally, the court credits the jury's findings of commercial success, long-felt need, failure by others, copying, skepticism, and no simultaneous invention. For the reasons cited above, however, the court discounts the probative value of the jury's findings of commercial success, long-felt need, and failure by others. In light of the jury's apparent conclusions, and considering the claimed invention as a whole, I cannot conclude that Nintendo has proven the invention obvious by clear and convincing evidence. I find that the Alpex invention reflected a means for using microprocessor, together with replaceable ROM, to create a flexible home video game system capable of displaying rotating images, a combination that was not taught by the prior art, and was met with corresponding praise and skepticism among those with skill in the art. In light of these findings, I cannot conclude that claims 12 and 13 of the '555 patent are invalid as obvious. Nintendo's motion for judgment of invalidity as a matter of law is therefore denied.

V. *New Trial.*

In addition to seeking judgment of non-infringement and invalidity as a matter of law, Nintendo moves for a new trial. " [A] district court ordinarily should not grant a new trial unless it is convinced that the jury has reached a seriously erroneous result. . . ." *Smith v. Lightning Bolt Productions, Inc.*, 861 F.2d 363, 370 (2d Cir. 1988). Nintendo's motion for a new trial is largely a restatement of its arguments for judgment as a matter of law. First, Nintendo reiterates its complaints about the court's handling of the claim construction issues. Second, Nintendo revisits the jury's finding with respect to the date of invention. In conclusion, Nintendo claims that the jury reached a

verdict that was against the weight of the evidence, caused by (1) the court's allegedly erroneous decision to put the question of copying to the jury; (2) Alpex counsel's allegedly prejudicial reference to the indemnification agreement between the defendants; (3) Alpex counsel's alleged manipulation of the court's *in limine* ruling on notice of the '555 patent; (4) Alpex expert Mr. Milner's alleged misconduct; (5) the court's allegedly erroneous instructions regarding Alpex's bankruptcy and pioneering patents; (6) the court's allegedly erroneous exclusion of the Channel F system; (7) the jury's allegedly arbitrary and capricious conclusion that 118 games infringe; and (8) the court's allegedly prejudicial statement to the jury at the close of the liability phase of the trial. For the reasons cited in connection with the court's consideration of the motions for judgment as a matter of law, as well as those identified below, the court does not think that the jury reached a seriously erroneous result in this case.

A. *Claim Construction.*

Nintendo asserts that three aspects of the court's handling of the claim construction issue warrant a new trial. First, Nintendo claims that the court erroneously declined to instruct the jury as to the special master's construction of the video display means, thereby causing the jury to employ an incorrect construction of the claims in its infringement analysis. Second, Nintendo argues that the court erred in neglecting to instruct the jury that its claim construction should take into consideration the way in which the hardware is interconnected and how it operates. Third, Nintendo maintains that the evolution of the special master's claim construction during the course of trial enabled Alpex to introduce legally improper and unfairly prejudicial testimony about the scope of the patent claims.

[8] The proper division of responsibility for claim construction as between the court and the jury is not settled law, as evidenced by the current pendency of the *en banc* appeal in *Herbert Markman & Positek, Inc. v. Westview Instruments, Inc. and Althon Enterprises Inc.*, No. 92-1049. It was not error for this court to give the jury its limited claim construction, leaving further refinement of that construction to the jury, subject to this court's review on a motion for judgment as a matter of law. See *Lemelson v. General Mills, Inc.*, 968 F.2d 1202, 1206 [23 USPQ2d 1284] (Fed. Cir. 1992), cert. denied, *1194 113 S.Ct. 976 (1993). Moreover, Nintendo was not prejudiced by the court's having left the claim construction issue

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to the jury in that the jury construed the claims in the manner advocated by Nintendo, i.e., "a structure that includes a display RAM which has discrete storage positions which correspond to each of the bars or pixels of the TV screen." Nintendo complains, however, that in giving the jury the foregoing construction as an option on the jury verdict form, the court erroneously focused the jury's attention on a single component of the video display, rather than on the manner in which that component operated together with the other elements of the apparatus. Similarly, Nintendo claims the court failed to instruct the jury that claim construction encompassed the way in which the claimed invention operates, as well as its physical structure. Without such instructions and interrogatories, Nintendo argues, the jury's infringement analysis was erroneously conducted without any consideration of the full structure that corresponds to the means clauses in claims 12 and 13.

Nintendo's objections are unfounded. First, the allegedly misleading interrogatory employs the same language that technical witnesses and counsel for Nintendo repeatedly used at trial to describe a "bit-map" system. (Tr. 693, 695, 1937-38, 1978-79, 3341) After nearly four weeks of trial, the jury surely recognized the structure described in the first interrogatory as that which operated in a manner labelled by Nintendo as "bitmapping." Second, the word "correspond" in the interrogatory is suggestive of the way in which the elements of the invention are connected and the way in which they operate together. The interrogatory proposed by Nintendo would have added little in this respect to that used by the court. [FN19] Third, contrary to Nintendo's assertions, the court's instructions specifically directed the jury to consider the way in which the patented structure works, as part of its literal infringement analysis. (Tr. 3971: 13-16) The jury is presumed to have followed these instructions, which, as noted *supra*, could have reasonably led to its findings of infringement under either section 112(6) or the doctrine of equivalents. In light of the foregoing, the court finds no basis for a new trial in its instructions or jury interrogatories relating to claim construction.

As noted above, Nintendo also complains that the evolution of the Special Master's claim construction left the court with no basis for ruling consistently on Nintendo's objections to testimony elicited by Alpex from Mr. Milner. More specifically, Nintendo claims that in light of the evolving claim construction, Alpex

was erroneously permitted (1) to introduce testimony that the claims cover multiple means for performing the specified function and (2) to emphasize claim differentiation through Mr. Milner's testimony, Dr. Ward's cross-examination, and the questions and argument of counsel. Nintendo's objections to the claim differentiation testimony are made on the basis of the decision in *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538 [19 USPQ2d 1367] (Fed. Cir. 1991), where the Court of Appeals held that "[a] means-plus-function limitation, is not made open-ended by the presence of another claim specifically claiming the disclosed structure which underlies the means clause or an equivalent of that structure." Applying *Laitram*, Nintendo argues that Alpex erroneously argued that notwithstanding the fact that the only structure disclosed in the specification is a bit-map structure, claims 12 and 13 do not require a bit-map structure because claims 1 through 11 explicitly claim a bit-map structure. Nintendo overstates the holding in *Laitram*. The *Laitram* court did not rule out claim differentiation with respect to means-plus-function claims. Rather, the court held that claim differentiation is a guide, which should be used, as long as it does not run afoul of section 112(6). *Id.* Significantly, the *Laitram* court recognized that notwithstanding disclosure of only one structure in the patent specification, claim differentiation can nonetheless be helpful for identification of equivalents of that structure. [FN20] *Id.*; see also *D.M.I., Inc. v. Deere & Co.*, 755 F.2d 1570, 1573 [225 USPQ 236] (Fed. Cir. 1985). Cast in this light, Mr. Milner's claim differentiation testimony was not legally erroneous. Moreover, to the extent that testimony and argument regarding either claim differentiation *1195 or the scope of means-plus-function claims was contrary to law, any prejudice was mitigated by instructions derived from the Federal Circuit's decisions in *Laitram* and *Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039 [25 USPQ2d 1451] (Fed. Cir. 1993). The court accurately explained the competing principles of claim differentiation and section 112(6) as follows:

As I previously instructed you, in this case the court has already found that the structure corresponding to all of the means clauses in Claims 12 and 13 are the components set forth in figure 2 of the '555 patent, excluding the television receiver and the keyboard. As I have noted, in construing Claims 12 and 13 you may look at the other claims of the patent. The fact that more specific limitations appear in other claims may have a bearing on the proper interpretation of Claims 12 and 13. However, you may not base your construction on a difference between the claims if

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that construction is contrary to the construction of certain claim elements that I have given you, or if it is contrary to the requirement that means-plus-function claim elements must be construed to cover the corresponding structure in the specification or equivalents.

(Tr. 3964-65) In finding that the structure corresponding to the video display means was the structure that counsel for Nintendo had repeatedly identified as a bit-map structure, the jury clearly followed the court's instruction notwithstanding Mr. Milner's testimony to the contrary. For the foregoing reasons, Mr. Milner's testimony, like the court's handling of the claim construction, provides no basis for a new trial.

B. Date of Invention.

In its motion for a new trial, Nintendo reasserts its argument that the court erred in declining to instruct the jury that the date of invention attributable to the Alpex invention was not before October 10, 1974. As discussed in connection with Nintendo's motion for judgment of invalidity as a matter of law, the court finds substantial evidence supporting an earlier invention date of July 21, 1974. Moreover, an October 10, 1974 invention date would not have materially altered the prior art evidence that was before the jury. The only evidence that fell between the two invention dates was the August 1974 *Computer* article, which, even if it were not itself prior art, could be considered by the jury as supportive of testimony about the FRED system. Moreover, consideration of that evidence is not inconsistent with the jury's validity-related findings. Accordingly, the court concludes that its refusal to instruct the jury as to the date of invention was not error warranting a new trial.

C. Miscellaneous Error and Misconduct.

As a final basis for a new trial, Nintendo asserts that the verdict was reached against the weight of the evidence and as a function of a number of instances of misconduct and legal error. These incidents, standing alone or considered in their totality, provide insufficient ground for a new trial. First of all, the court notes that in three of the incidents noted by Nintendo, the court sustained Nintendo's objections and took steps to cure any prejudice. Thus, the court sustained Nintendo's objection to Alpex's reference in opening argument to the defendants' indemnification agreement, no subsequent mention was made of the agreement, and at the end of trial, the jury was

instructed that the argument of counsel is not evidence. I observed the jury closely during the opening statements; in my view, counsel's passing reference to the indemnification agreement made no impression on them. Similarly, I sustained Nintendo's objection to Alpex's opening statement about the first infringement notice it sent to Nintendo. When Alpex counsel subsequently asked a related question, I sustained Nintendo's objection and gave the jury a curative instruction. Finally, upon Nintendo's objection to Mr. Milner's reference to the Special Master, I reprimanded the witness. In any event, it is my view, having watched the jury during this testimony, that his reference to the Special Master made no impact on the jury. Furthermore, contrary to Nintendo's assertion, Mr. Milner's reference to the Special Master was not the first time that Mr. Creel was identified to the jury. Indeed, Alpex counsel opened trial with a greeting to, among others, Special Master Creel, that went unobjected by Nintendo. The other conduct by Mr. Milner that Nintendo claims was objectionable does not rise to the level of warranting a new trial. His most egregious conduct was his moving about twelve feet back from the witness chair (while counsel approached the bench to discuss an objection outside the hearing of the witness and the jury), for part of which time he sat in a chair at the front end of the jury box, which chair was a few chairs away from any juror. As startling as that was for those of us familiar with courtroom protocol, the jury seemed to me to be oblivious to it and seemed not to notice Mr. Milner's presence among them. In the course of a four-week, complicated patent trial, *1196 such fleeting and unrepeated instances of misconduct or error do not give rise to prejudice warranting a new trial.

The court takes more seriously Nintendo's claim that its decision to permit evidence and argument of copying warrants a new trial. As I noted at trial, I found the question of whether the evidence of copying should go to the jury to be an extremely close call. I have carefully considered this issue both during and after trial, and on both occasions concluded that, drawing all inferences in favor of Alpex, as I must, a reasonable jury could make a finding of copying in the instant case. In light of this conclusion, I cannot conclude that allowing the evidence of copying was error warranting a new trial.

Nintendo complains next of the court's instructions regarding bankruptcy and pioneering patents. These rulings were well founded and do not provide any basis for granting a new trial. Nintendo makes the blanket assertion that "many of the Court's jury

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instructions were inappropriate in this case or incorrect as a matter of law." Memorandum of Law in Support of Nintendo's Motion for a New Trial, at 52. Nintendo overlooks the fact that most of the court's jury instructions were the product of negotiated agreement between the parties. Moreover, as counsel for Nintendo noted in a charge conference for the damages phase, the court sustained most of Nintendo's objections to jury instructions proposed by Alpex. See Transcript of Charge Conference, July 23, 1994, at 66-7. As a basis for a new trial, Nintendo now points to two instructions on which the court overruled its objections. The first of these was an instruction explaining Alpex's bankruptcy to the jury. A bankruptcy instruction was given at Nintendo's suggestion, contained in its response to Alpex's Omnibus Motion in Limine. Nonetheless, Nintendo objected to the particular instruction that the '555 patent is an asset of the bankrupt Alpex, and that the proceeds from the patent would be distributed to creditors, shareholders, and others. Nintendo complains that the instruction gave the jury the impression that the court was administering Alpex's bankruptcy, and that proceeds of the litigation would be distributed to "needy" creditors and shareholders. I see no basis for drawing these conclusions as to the effect of the instruction. The instruction was carefully composed on the basis of proposals from both parties and I believe that it was necessary and appropriate to avoid any prejudice to Alpex as a result of its bankruptcy. The second instruction to which Nintendo objects is the court's instruction that if the jury found the '555 patent to be a pioneering patent, then it could accord the patent a broader scope of equivalents under the doctrine of equivalents. Nintendo maintains that the court's instruction was contrary to the decision in *Valmont*, 983 F.2d 1039 [25 USPQ2d 1451], and other recent decisional law. Although these decisions may be read to constrain equivalence analyses under the doctrine of equivalents, they do not purport to overrule prior decisional law on pioneering patents. At Nintendo's bidding, the court fully instructed the jury as to the standard for equivalents articulated in *Valmont*. Therefore, I find no legal basis for Nintendo's objection. In the alternative, Nintendo asserts that there was no record evidence warranting the pioneering patent instruction. The evidence relating to secondary considerations, as well as Mr. Milner's explicitly stated opinion that the patent was pioneering, were sufficient basis for such an instruction. Neither this instruction, nor the bankruptcy instruction requires a new trial.

In support of its motion for a new trial, Nintendo

also cites the court's pre-trial decision to preclude Nintendo from using Channel F, the commercial embodiment of the '555 patent, as a demonstrative exhibit. The court excluded the Channel F under Rule 403 of the Federal Rules of Evidence, noting the danger that the jury would mistakenly fix its attention on the Channel F, rather than the patent in suit. By permitting testimony about the Channel F but forbidding demonstration of the actual apparatus, the court struck an appropriate balance -- permitting introduction of relevant evidence but limiting its presentation to avoid jury confusion. That decision cannot be held to have produced a seriously erroneous result.

[9] Pointing to the brevity of the jury's deliberations, Nintendo claims that its conclusions were necessarily arbitrary and capricious. Halfway through its deliberations, the jury requested a television and NES console, presumably to play the accused games. Two hours later it announced its verdict, finding that 118 of the 146 games infringed the '555 patent. Nintendo calculates that the jury had on average only 46 seconds to play and assess each game. Nintendo asserts that the jury could not have properly and diligently performed its fact-finding and deliberative function. Nintendo claims that the jurors' remarks [FN21] at learning *1197 that there would be a second phase of the trial indicates that they had been eager to finish the first phase of the trial, and that they had therefore rushed through their deliberations. I find no basis for Nintendo's assertions. I believe that the jurors took their responsibility seriously, as was reflected in their prompt and attentive attendance throughout trial. As is discussed in connection with Nintendo's motion for judgment of non-infringement as a matter of law, Mr. Milner's testimony regarding the presence of the ball image and linear player image in each of the games was sufficient to support the jury's finding of infringement. Nonetheless, the jury apparently tested this testimony through its own review of the accused games. In doing so, the jury evidenced diligence, not carelessness. To the extent that the jury's independent review of the games prejudiced either party, it was Alpex, because the jury concluded that fewer games infringed than Mr. Milner had indicated. Any reactions by the jurors upon learning of the second phase of the trial were natural reactions to the prospect of another two weeks of having their personal lives disrupted by jury service. I do not infer from such comments any lack of respect for their responsibility as jurors. This conclusion is reinforced by reference to the jury's efforts in the

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damages phase. Most of the jurors took pains to return for service a month and a half later, willingly cancelling vacation plans and other personal commitments to do so. At the close of the damages phase, the jury deliberated for nearly two days, beginning on a Friday and returning the following Monday to complete the task. Although I believe that there may be serious questions about the advisability of trying patent cases to juries, I also believe that the jury in this case performed its duty commendably. As its final reason for granting a new trial, Nintendo cites the court's muted expression of appreciation to the jury at the close of the liability phase of the trial. Prior to excusing the jury, I stated:

If this were the end of the case I would be coming back into the jury room to thank you for your service. I won't do that now because we are still essentially in trial. But I don't want to leave to leave you for almost a month and a half without telling you how impressed I was with you as a jury, with how punctual you have been and how attentive you have been. And I want to thank you for that. All the rest of my thanks I will save for the end of the case.

(Tr. 4014) I carefully limited my comments to the jury's demeanor in court, avoiding any reference to the outcome of the trial. Contrary to Nintendo's assertions, these comments did not taint the jury for the damages phase of the trial. In sum, none of the miscellaneous "errors" or instances of misconduct, considered separately or in their totality, indicates that the liability trial of this case produced a seriously erroneous result. Accordingly, Nintendo's motion for a new trial is denied.

DAMAGES

Having found that Nintendo infringed claims 12 and 13 of the Alpex patent, and that the patent was not invalid as obvious, the jury returned for a second phase of the trial in order to assess damages and to determine whether Nintendo's infringement had been willful. At the completion of a two-week trial on damages, the jury arrived at a damage verdict of \$208,268,418, and concluded that Nintendo of America's ("NOA") infringement had been willful, while that of its Japanese parent, Nintendo Company, Ltd. ("NCL"), had not been. Presently before the court are the parties' post-trial motions with respect to the damages phase. Nintendo moves for a remittitur, a new trial on damages, or judgment as a matter of law awarding damages in the range of \$400,000 to \$2,500,000. Alpex moves for entry of judgment in an amount that, in addition to the jury's \$208,268,418

award, includes damages based on infringing sales conducted between December 1992 through May 1994, pre-judgment interest, and an enhancement of the award by 50%, or \$104,134,209, pursuant to 35 U.S.C. Section 284. For the reasons set forth below, the court denies Nintendo's motions for a remittitur, a new trial, and entry of judgment; the court grants Alpex's motion for an accounting and enhancement of the award in accordance with the accounting; the court grants Alpex's motion of pre-judgment interest; providing, however for calculation of that interest as proposed by Nintendo; and the court denies Alpex's motion for a 50% enhancement of the jury's award.

DISCUSSION

I. Remittitur, New Trial, or Judgment as a Matter of Law.

Nintendo maintains that the jury's damage verdict was shockingly excessive and warrants a remittitur, new trial, or judgment as a matter of law. Nintendo asserts several *1198 bases for its post-trial attack on the damage verdict. First, Nintendo claims that Alpex ignored and/or distorted evidence probative of damages. Second, Nintendo complains that the court erred in excluding evidence of (1) Alpex licenses to third parties, (2) Alpex's initial offer to Nintendo, and (3) Alpex's statements to the bankruptcy court regarding the value of its patent. Finally, Nintendo argues that the court erroneously permitted the jury to consider the question of willful infringement. These arguments are addressed in turn below.

A. Adequacy of Alpex's Proof.

"[T]he amount of a prevailing party's damages is a finding of fact on which the plaintiff bears the burden of proof by a preponderance of the evidence." Smithkline Diagnostics, Inc. v. Helena Laboratories, Corp., 926 F.2d 1161, 1164 [17 USPQ2d 1922] (Fed. Cir. 1991). The first prong of Nintendo's attack on the jury verdict is to find fault with the logic and legal underpinnings of Alpex's proof of damages. Under 35 U.S.C. Section 284, a court may award "damages adequate to compensate for the infringement, but in no event less than a reasonable royalty." In a case such as this, in which the patentee's lost profits cannot be calculated, the damage award is based on a calculation of the "reasonable royalty," or the amount to which a willing licensor and a willing licensee would have agreed in hypothetical negotiations at the time of the first infringement. Fromson v. Western Litho Plate and Supply Co., 853 F.2d 1568, 1574 [7 USPQ2d 1606] (Fed. Cir. 1988). Prior to trial, the court ruled

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that the time period for the hypothetical negotiations would be October 1985, when Nintendo launched the NES in the New York City market. Neither party challenges that ruling post-trial.

Both during and after trial, Nintendo has urged a calculation of damages based on "real-world" facts in 1985, including the bargaining positions of both parties at the time of the hypothetical negotiations. In particular, Nintendo highlights the dismal state of the video game industry in 1985, and Alpex's licensing history, including a number of \$400,000 non-exclusive license offers made in the early 1980s. Nintendo complains that Alpex improperly focused the jury's attention on Nintendo's expectations, ignoring Alpex's bargaining position. Nintendo maintains that this flaw in Alpex's proof was exacerbated by Alpex's misuse of evidence of a licensing agreement that Nintendo had previously entered into with Magnavox. In sum, Nintendo claims that the evidence dictates a finding that the hypothetical negotiators would have agreed to a paid-up license fee ranging between \$400,000 and \$2,500,000; that the jury's contrary conclusion is unsupported by substantial evidence and is shockingly excessive; and that the verdict cannot stand.

In response, Alpex argues that the hypothetical negotiation analysis is a legal fiction, which, although it is a useful analytical device, should not constrain courts' efforts to do justice. Thus, Alpex emphasizes that, for purposes of the hypothetical negotiation, the patent must be presumed valid and infringed. Alpex also underscores Nintendo's actual profits as relevant to the amount required to compensate Alpex for the use made of the invention. Pointing to these profits, as well as Nintendo's expectations for the NES in 1985 and the previous license agreement between Nintendo and Magnavox, Alpex's experts testified that the hypothetical negotiators would have agreed to a 12% running royalty, yielding a damage award of \$416,536,835 on Nintendo's infringing sales through November 1992. The jury's verdict split the difference between the parties' positions, awarding \$208,268,418, or a 6% running royalty applied to Nintendo's infringing sales through November 1992. Although the award is less than Alpex sought, Alpex does not challenge the jury's conclusion post-trial.

The parties' positions reflect a clear conflict in their conceptions of the reasonable royalty analysis. Unfortunately, there is sufficient decisional law to give each side ground for reasonable argument. For example, Nintendo highlights the discussion of the

hypothetical negotiation analysis in the oft-cited decision in *Georgia-Pacific Corp. v. United States Plywood Corp.*, 318 F. Supp. 1116, 1120 [166 USPQ 235] (S.D.N.Y. 1970), *aff'd*, 446 F.2d 295 [170 USPQ 369] (2d Cir.), *cert. denied*, 404 U.S. 870 [171 USPQ 322] (1971). Describing the hypothetical negotiation analysis, Judge Tenney explained:

Where a willing licensor and a willing licensee are negotiating for a royalty, the hypothetical negotiations would not occur in a vacuum of pure logic. They would involve a market place confrontation of the parties, the outcome of which would depend upon such factors as their relative bargaining strength; the anticipated amount of profits that the prospective licensor *1199 reasonably thinks he would lose as a result of licensing the patent as compared to the anticipated royalty income; the anticipated amount of net profits that the prospective licensee reasonably thinks he will make; the commercial past performance of the invention in terms of public acceptance and profits; the market to be tapped; and any other economic factor that normally prudent businessmen would, under similar circumstances, take into considerations in negotiating the hypothetical license.

Id. at 1121. In contrast, Alpex quotes decisional law suggesting a hypothetical negotiation analysis less tied to the facts known at the time the negotiations are hypothesized to have taken place. Among the authorities cited by Alpex is the Court of Appeals decision in *Fromson v. Western Litho Plate and Supply Co.*, 853 F.2d at 1574, in which Chief Judge Markey explained the hypothetical negotiation analysis as follows:

The methodology encompasses fantasy and flexibility; fantasy because it requires a court to imagine what warring parties would have agreed to as willing negotiators; flexibility because it speaks of negotiations as of the time infringement began, yet permits and often requires a court to look to events and facts that occurred thereafter and that could not have been known to or predicted by the hypothesized negotiators.

Id.; see also *TWM Mfg. Co. v. Dura Corp.*, 789 F.2d 895, 899 [229 USPQ 525] (Fed. Cir. 1986) ("The willing licensee/licensor approach must be flexibly applied as a 'device in the aid of justice.' "), *cert. denied*, 479 U.S. 852 (1986); *Panduit Corp. v. Stahlin Bros. Fibre Works, Inc.*, 575 F.2d 1152, 1158 [197 USPQ 726] (6th Cir. 1978) ("The setting of a reasonable royalty after infringement cannot be

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treated, as it was here, as the equivalent of ordinary royalty negotiations among truly 'willing' patent owners and licensees. That view would constitute a pretense that the infringement never happened. It would also make an election to infringe a handy means for competitors to impose a 'compulsory license' policy upon every patent owner").

[10] In light of the foregoing decisional law, I cannot conclude that Alpex's proof of damages was somehow inadequate for having emphasized Nintendo's actual profits as opposed to Alpex's licensing history. In support of this conclusion, I note first that Nintendo has failed to distinguish *Panduit*, *TWM*, and *Fromson*. Nintendo argues that in each of these cases there had been no prior license offers, so the courts were not constrained by "real world facts" like those presented here. Although true, this assertion does not counter the fact that in these cases, as well as in cases involving prior licenses, courts have distinguished the reasonably royalty resulting from a hypothetical negotiation analysis from the royalty that might have attained through actual negotiations at the time infringement began. See e.g., *Deere & Co. v. International Harvester Co.*, 710 F.2d 1551, 1557 [218 USPQ 481] (Fed. Cir. 1983) (district court permissibly discounted evidence of prior licenses in determining reasonable royalty). This distinction is drawn, not for want of evidence of "real world facts," but rather, to compensate the patentee adequately for the infringement. *Hanson v. Alpine Valley Ski Area, Inc.*, 718 F.2d 1075, 1081 [219 USPQ 679] (Fed. Cir. 1983) ("Whether the defendant was never willing to pay a reasonable royalty is irrelevant. The willing-buyer/willing-seller concept is employed by the court as a means of arriving at reasonable compensation and its validity does not depend on the actual willingness of the parties to the lawsuit to engage in such negotiations.' ") (quoting *Tektronix v. United States*, 552 F.2d 343, 349 [193 USPQ 385] (Ct. Cl. 1977), cert. denied 439 U.S. 1048 [200 USPQ 704] (1978)).

Nonetheless, as Nintendo points out, even in cases approving a flexible hypothetical negotiation analysis, courts at least anchor their analyses with facts at the time of infringement. I cannot conclude, however, that this was not what occurred here. The jury heard evidence of Alpex's license offers, Nintendo's license agreement with Magnavox, the status of the video game industry in 1985, the success of the Japanese version of the NES, and Nintendo's expectations for the U.S. market. This evidence

permitted the jury to take into account, in its hypothetical negotiation analysis, the reality in 1985. The jury was instructed that it could consider evidence of Nintendo's actual profits, but only to the extent that such evidence was probative of the expectations for the future that the hypothetical negotiators would have had as of October 1985. (Tr. 6333-34) The jury was also properly instructed that for purposes of the hypothetical negotiation analysis, the patent is presumed to be valid and infringed. On the basis of the foregoing evidence and instructions, the jury could have reasonably determined that the hypothetical*1200 negotiators would have agreed to a 6% running royalty, or \$208,268,418 of Nintendo's infringing sales from October 1985 through November 1992. To the extent that the jury gave some evidence greater weight than other evidence, and chose an award different from that advocated by either party, its analysis was indistinguishable from that approved by the Federal Circuit. See e.g., *Deere & Co.*, 710 F.2d at 1557; *Smithkline Diagnostics, Inc.*, 926 F.2d at 1168 ("the district court may reject the extreme figures proffered by the litigants as incredible and substitute an intermediate figure as a matter of its judgment from all of the evidence").

Nintendo's arguments in its post-trial motions amount to no more than a request for the court to reweigh the evidence. First, Nintendo argues that Alpex's experts ignored evidence of Alpex's expectations generally, and the Alpex license offers specifically. To the contrary, Alpex's experts testified that they considered the license offers, but that they chose to discount them as inconclusive in light of the assumption that the patent is valid and infringed. Alpex overstates its case, arguing that the assumption that the patent is valid and infringed results in an "infinite" difference between Alpex's license offers and the offers it would have made in the hypothetical negotiation. See Alpex's Memorandum in Opposition to Nintendo's Motion for a Remittitur or in the Alternative a New Trial on Damages, 17. Nonetheless, as Nintendo concedes, the assumption does make a difference, and on that basis, the jury could have reasonably discounted evidence of Alpex's \$400,000 offers. In arriving at a 6% running royalty, the jury could have reasonably relied more heavily on other facts, including the alternative license arrangements presented in Alpex's license offers, the Magnavox license agreement discussed below, the success of the Japanese version of the NES, Nintendo's actual profits, and the testimony of experts regarding these facts.

Nintendo objects not only to Alpex's treatment of

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the cost of \$400,000 license offers, but also to the emphasis that Alpex put on a license agreement that Nintendo entered into with Magnavox in the 1970s, covering Magnavox's patents on technology relating to designated arcade games with a running royalty of between 5% and 6 1/2%. The jury's verdict -- which amounts to a 6% running royalty applied to Nintendo's \$3,471,140,292 in infringing sales between October 1985 and November 1992 -- may have been influenced by evidence of the terms Nintendo agreed to with Magnavox. Nintendo argues that any reliance on the Magnavox license agreement was misplaced. Prior to trial, in denying Nintendo's motion to exclude this evidence, I concluded that it was relevant to calculation of the reasonable royalty, and more specifically to (1) the utility and advantages of the patent property over the old modes or devices, and (2) the portion of the profit or of the selling price that may be customary in the particular business to allow for the use of analogous inventions. Notwithstanding this ruling, Nintendo reasserts its objection to the Magnavox agreement as a basis for a damages calculation. First, Nintendo argues that the Magnavox license agreement was in no way comparable to the license at issue in the hypothetical negotiations. My pre-trial conclusion regarding the relevance of the Magnavox license agreement was borne out at trial by testimony identifying relevant similarities and differences between the Magnavox agreement and the agreement that results from a hypothetical negotiation analysis. To the extent that Nintendo's motion for a new trial, a remittitur, or judgment as a matter of law amounts to a renewal of its objection to admission of the Magnavox license agreement, that motion is denied. As an alternative argument, Nintendo maintains that damages should not be determined with reference to the terms of the Magnavox agreement because Nintendo would not have agreed to similar terms with Alpex, in that such terms would have put it at a disadvantage as compared to other video game manufacturers to whom Alpex had offered a \$400,000 paid-up license. These considerations were presented to the jury and the jury could have reasonably relied upon the assumption that the patent is both valid and infringed, as well as evidence of the success of the Japanese version of the NES, to conclude that for purposes of the hypothetical negotiation (1) Alpex would not have offered the \$400,000 paid-up fee to Nintendo, and (2) Nintendo would have been willing to pay a 6% running royalty for the right to use the patented invention. See *Hanson*, 718 F.2d. at 1081.

Nintendo's assertions that the court's exclusion of certain evidence -- Alpex's license agreements, its

license offer to Nintendo, and its bankruptcy filings -- gave the jury a distorted record raise separate issues addressed below. On the record before the jury, *1201 I cannot conclude that the jury's verdict, which falls in the middle of the range advocated by the two parties and is supported by substantial evidence, is unreasonable, contrary to the clear weight of the evidence, or otherwise shocking to the judicial conscience. Therefore, to the extent that Nintendo's motion for a remittitur, new trial, or judgment as a matter of law is based on assertions that the record evidence was insufficient to support the verdict, that motion must be denied.

B. Exclusion of Evidence: Licenses Nintendo Offer, and Bankruptcy Court Statements.

As an alternative line of argument in support of its motion for a remittitur, new trial, or judgment as a matter of law, Nintendo asserts that the court erred in its exclusion of evidence regarding (1) actual license agreements negotiated between Alpex and companies accused of infringing the '555 patent, and publicity materials relating to those agreements; (2) a license offer made by Alpex to Nintendo in 1985 prior to commencement of this litigation; and (3) certain statements made by Alpex in its bankruptcy court filings regarding the value of the '555 patent. Nintendo's arguments regarding these evidentiary rulings raise issues addressed on numerous previous occasions by this court. The procedural history of the court's rulings on the evidence at issue is set forth in the court's opinion and order of March 16, 1994, and on the record of a telephone conference July 15, 1994. To summarize, in an opinion and order dated July 18, 1991 ("the Rule 408 Opinion"), the court ruled that pursuant to Rule 408 of the Federal Rules of Evidence, three categories of evidence would not be admissible at trial. See *Alpex Computer Corp. v. Nintendo Co.*, 770 F. Supp. 161 [20 USPQ2d 1782] (S.D.N.Y. 1991), *reaff'd, on recon.*, 1994 U.S. Dist. LEXIS 3343 (S.D.N.Y. Mar. 16, 1994), *vacated in part*, 1994 U.S. Dist. LEXIS 9963 (S.D.N.Y. July 19, 1994). The excluded evidence consisted of (1) documents relating to Alpex's offers to license the '555 patent to a large number of companies in the video game industry; (2) exhibits relating to licenses granted by Alpex to seven companies after extensive business negotiations, but prior to the commencement of litigation; and (3) licenses agreed to by four companies during litigation and certain documents relating to those licenses. *Alpex*, 770 F. Supp. at 162. Following issuance of the Rule 408 Opinion, Nintendo moved for clarification and certification for appeal. In an order dated September 2, 1992, the

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Court of Appeals for the Federal Circuit declined to take the appeal, and Nintendo subsequently moved for reconsideration with respect to a subset of the excluded evidence, that is, the first category of evidence consisting of Alpex's licensing offers, plus evidence of Alpex's efforts to publicize its license agreements and Alpex's bankruptcy filings regarding the value of the '555 patent. [FN22] In its motion for reconsideration, Nintendo presented the evidence at issue grouped in seven categories. [FN23] In an opinion and order dated March 16, 1994 ("the Rule 403 Opinion"), the court concluded that although six of the seven categories of evidence could not be excluded under Rule 408, they should be excluded under Rule 403. [FN24] Prior to trial, *1202 Nintendo once again sought reconsideration of the court's exclusion of evidence relating to Alpex's licensing offers. Given a more complete picture of the evidence relating to damages than had previously been presented, I concluded that evidence of Alpex's licensing offers should not be excluded under Rule 403. Nonetheless, I reaffirmed my previous conclusion that publicity materials relating to Alpex's license agreements and Alpex's Bankruptcy Court statements regarding the value of the '555 patent should be excluded. Moreover, notwithstanding my decision to permit admission of evidence of Alpex's industry-wide license offers, I concluded that Alpex's 1985 license offer to Nintendo should be excluded under Rule 403. As noted above, Nintendo now objects to exclusion of the Bankruptcy court statements, Alpex's license offer to Nintendo, the publicity materials relating to Alpex's license agreements, and the license agreements themselves. For the reasons set forth below, I conclude that the exclusion of this evidence does not warrant altering or setting aside the jury's verdict.

1. License Agreements and Publicity Materials

Nintendo renews its objection to the court's exclusion pursuant to Rule 408 of Alpex's consummated license agreements with Atari, Mattel, Magnavox, Imagic, IBM, Mattel, Sierra-On-Line, and Texas Instruments. Nintendo maintains that exclusion of this evidence gave the jury a distorted view of Alpex's licensing history. More specifically, Nintendo complains that exclusion of the evidence permitted Alpex to argue that its license with Fairchild Computer Corporation, the only admissible agreement, was distinguishable from that at issue in the hypothetical negotiations. Similarly, Nintendo alleges that exclusion of the license agreements made it possible for Alpex's expert to suggest that there would have been no other licensees to compete with

Nintendo at the time of the hypothetical negotiations. [FN25] Finally, Nintendo argues that it should have been permitted to introduce Alpex's license agreement with Atari, an industry leader, in order to argue that notwithstanding Nintendo's great expectations for the NES, Alpex would have offered its standard license terms to Nintendo in 1985.

Throughout this litigation, the court has been well aware of the importance of Alpex's licensing history to Nintendo's case. For this reason, the court considered these evidentiary issues on three separate occasions before trial, certified the question of Rule 408 exclusion for interlocutory appeal, and struggled to implement its rulings fairly during the trial. Notwithstanding the potential importance of this evidence to Nintendo's case, however, the court must follow the mandatory language of Rule 408, which provides in pertinent part:

Evidence of (1) furnishing or offering or promising to furnish or (2) accepting or offering or promising to accept, a valuable consideration in compromising or attempting to compromise a claim which was disputed as to either liability or amount, is not admissible to prove liability for or invalidity of the claim or its amount.

Nintendo argues that Rule 408 does not apply to Alpex's license agreements to Atari, Imagic, IBM, Mattel, Sierra-On-Line, and Texas Instruments, because, according to Nintendo, these agreements were not settlements of disputed claims, but rather, the result of business negotiations in an industry-wide licensing program. In this regard, Nintendo relies on *Big O Tire Dealers, Inc. v. Goodyear Tire & Rubber Co.*, 561 F.2d 1365 [195 USPQ 417] (10th Cir. 1977), in which the court concluded that communications prior to threatened litigation were not offers of compromise excludable under Rule 408. As the court noted in its Rule 408 Opinion, however, each of the license agreements at issue in this case was consummated *after* litigation was threatened. See *Alpex Commuter Corp.*, 770 F. Supp. at 164. The court is aware, as Nintendo points out, that the threat of litigation often accompanies the negotiation of a patent license. In this case, however, I find that the threat was sufficiently well founded to bring the license agreements within the scope of Rule 408. First, prior to consummating each of the license agreements at issue, Alpex had made its threat of litigation explicit, in writing. Moreover, as evidenced by the fact that Alpex commenced several lawsuits to enforce the '555 patent, its threats were made with every intention of purging litigation to the extent that

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its resources permitted. The license agreements that Alpex negotiated to avoid that litigation were *1203 settlements of disputed claims covered by Rule 408. [FN26]

Nintendo urges the court to look past the fact that the license agreements were consummated after litigation was threatened (and in some instances commenced), because, according to Nintendo, litigation was just another tool employed by Alpex in its industry-wide licensing program. Nintendo emphasizes that Alpex offered and negotiated the same license terms both before and after litigation. Nintendo argues that where terms of a license agreement negotiated in the litigation context are the same as those negotiated outside of that context, those terms should not be protected under Rule 408. The court is aware of no support for this proposition. Moreover, Nintendo's argument appears to be based on a disfavored conception of the purpose of Rule 408 as categorically excluding settlement terms because they generally present an inaccurate assessment of the validity or value of a claim and are therefore irrelevant to these issues in subsequent litigation. See Fed. R. Evid. 408 Notes of Advisory Committee; 2 J. Weinstein & M. Berger, *Weinstein's Evidence*, para. 408 [02] at 408-17 *et seq.* (1986). If this were the sole purpose of Rule 408, Nintendo would have a more plausible argument: Alpex gave the same terms outside of the litigation context as it did in its settlement agreements, so, although settlement terms generally do not present an accurate or relevant measure of the value of a claim, in this case they appear to do so (if one ignores that Alpex's financial weakness left it with little appetite for pursuing litigation). Rule 408 is not primarily conceived as a "relevance" rule, however. Rather, its overriding purpose is to foster settlement of disputes by protecting as privileged statements made in the course of settlement discussions. See Fed. R. Evid. 408 Notes of Advisory Committee. To serve this purpose adequately, Rule 408 must be predictably applied by courts. A court cannot carve out unprecedented exceptions simply because it finds evidence from settlement negotiations that might be particularly helpful to a party in litigation. It is precisely such admissions that Rule 408 is designed to protect when they are made in the context of dispute settlement.

Nintendo cites *Hughes Aircraft Co. v. United States*, 31 Fed. Cl. 481 (1994), in which the Court of Federal Claims found Rule 408 inapplicable to statements made in the course of settlement negotiations regarding the patentee's "normal royalty

rates." The court notes that *Hughes Aircraft*, which is currently on appeal, does not bind this court. In any event, I find its analysis inapplicable to this case. The *Hughes Aircraft* case relied on exceptions to Rule 408 for statements made in the course of settlement discussions that are otherwise discoverable or offered for a purpose other than to prove the claim or its amount. To the extent that the *Hughes Aircraft* court properly applied these exceptions, its analysis does not apply here. In this case, Nintendo's motive in seeking to introduce evidence of the license agreements was to prove the amount of the claim. Merely because the terms of the agreements mirror terms of Alpex's industry-wide license offers, the agreement terms do not become "otherwise discoverable" for purposes of the Rule 408 exception. The exception might apply if, as in *Hughes Aircraft*, Nintendo sought to introduce a statement made by Alpex in the course of settlement negotiations regarding terms Alpex had offered in non-litigation settings. It does not apply to the actual terms of the negotiated settlement agreement, regardless of their similarity to terms negotiated or offered in non-litigation settings.

In sum, I decline to reverse my previous ruling that the consummated license agreements are inadmissible under Rule 408. These agreements are evidence relating to settlement of actual disputes. The fact that these settlements were negotiated at the same time and on terms similar to those offered by Alpex to those with whom it did not have actual disputes does not alter my conclusion. Moreover, for the reasons articulated in my March 16, 1994 Opinion and Order, I find that exclusion of the publicity materials describing the excluded license agreements is necessary to avoid undermining the effect of the Rule 408 ruling.

2. Alpex's License Offer to Nintendo

*1204 As previously noted, in the 1991 Rule 408 Opinion, I excluded, pursuant to Rule 408, a number of industry-wide license offers made by Alpex in 1983 and 1984. In the March 16, 1994 Rule 403 Opinion, I concluded that the license offers could not be excluded under Rule 408, but that nonetheless they should be excluded under Rule 403. Subsequently, at Nintendo's bidding, I reconsidered this decision, and just prior to trial, I concluded that the evidence of the 1983 and 1984 industry-wide license offers would be admissible. In light of these reversals, Nintendo sought to introduce a similar offer made to it in January 1985, prior to commencement of this litigation. I concluded that

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this offer to Nintendo should be excluded. Nintendo now asserts that this ruling was made in error.

The admissibility of Alpex's license offer to Nintendo presents a close question. Upon careful consideration of the issue, I have concluded that Alpex's offer to Nintendo is distinguishable from its 1983 and 1984 industry-wide offers, and therefore should be excluded under Rule 408. First, Alpex's offer to Nintendo is distinguishable in that it specifically identifies at least one allegedly infringing game, suggesting that Alpex's infringement allegations as against Nintendo were better grounded than were those contained in its relatively vague 1983 industry-wide mailings. Second, it is uncontested that prior to receiving Alpex's license offer in January 1985, Nintendo knew of the Alpex patent. (Tr. 4583-86) By manufacturing and demonstrating its products, notwithstanding what it knew of the Alpex patent, Nintendo signalled that it disputed any claim of infringement under the Alpex patent. Nintendo complains that the foregoing facts do not meet the standard for Rule 408 exclusion articulated by the court in the March 16, 1994 Rule 403 Opinion. In that opinion, I held that Alpex could not have reasonably believed that its licensing offers were made to compromise a dispute, as defined for purposes of Rule 408, until (1) it had developed well-grounded and specific claims of infringement, (2) it had communicated these claims to the alleged infringers, and (3) the alleged infringers, by words or actions, had signalled that they disputed that claim. Arguably missing in the case of Alpex's offer to Nintendo is any evidence that Alpex had communicated its infringement claim to Nintendo and that Nintendo had contested that claim prior to Alpex having made its license offer. The test I used in considering Alpex's industry-wide license offers was not intended to be a rigid checklist, however. Rather, I found it useful in that particular context to make the underlying determination of whether Alpex could have reasonably believed that its licensing offers were made to compromise a dispute. Given the specificity of Alpex's allegations against Nintendo in January 1985, Nintendo's prior knowledge of the patent, and its development of its product notwithstanding that knowledge, I find sufficient evidence to conclude that Alpex's January 1985 license offer to Nintendo was made to settle an actual dispute for purposes of Rule 408. [FN27] 3 Bankruptcy Court Documents.

Nintendo raises a final objection to the court's evidentiary rulings, pointing specifically to the court's exclusion under Rule 403 of certain statements made

by Alpex in bankruptcy proceedings unrelated to this litigation. The bankruptcy court documents at issue contain statements that the '555 patent was considered to have minimal value. For example, a 1987 bankruptcy court disclosure statement cited by Nintendo describes a number of Alpex patents, including the '555 patent, as follows:

The present fair market value and liquidation value of these patents are unknown. The Trustee has not been successful in finding any purchasers or other investors to acquire these patents. By and large, the patents be obsolete and the current utility of them is very limited. It is quite possible that the patents themselves may have no actual market value.

Appendix of Exhibits to Nintendo's Remittitur Memorandum, Ex. 34. Nintendo argues that in excluding such statements, the court eliminated the primary evidence of Alpex's expectations at the time of the hypothetical negotiations. Nintendo acknowledges, however, that the bankruptcy court statements reveal Alpex's of assessment of the patent's "firesale" value in the context of a possible forced liquidation. Forced liquidation was eventually rejected in favor of a five-to-ten year liquidation plan, pursuant to which Alpex would litigate its infringement claims, rather than settle them prematurely.

As I stated on the record on February 15, 1994 and reiterated in my March 16, 1994 decision, I find the bankruptcy court documents unfairly prejudicial to Alpex and likely to cause jury confusion. First, I find the statements, which were made in an unrelated context and under different assumptions *1205 than apply in these proceedings, of little probative value. Second, it would be unfairly prejudicial to hold Alpex to its statements regarding forced liquidation, when in fact Alpex chose the alternative course of litigating infringement claims thought to be meritorious. Moreover, the statements, which were made prior to any judicial finding that the patent was valid and infringed, could have greatly confused the jury, which was correctly charged to assume that the patent was valid and infringed for purposes of its hypothetical negotiation analysis. For the foregoing reasons, I reaffirm my decision to exclude the bankruptcy court documents under Rule 403, and find no basis for a new trial, remittitur, or judgment as a matter of law in either that ruling or the other evidentiary rulings discussed supra.

C. Submission of the Willfulness Issue to the Jury.

[11] As a third and final basis for its motion for a new trial, remittitur, or judgment as a matter of law, Nintendo maintains that no reasonable jury could have concluded that NOA willfully infringed the patent, and that the court erred in submitting the question of willfulness to the jury. In making this motion, Nintendo renews prior motions for judgment as a matter of law made during and immediately after trial. For the same reasons that those motions were denied, I deny the instant motion. Although as I stated at trial, the evidence regarding willfulness was not abundant, I believe that there was sufficient evidence to support a reasonable jury's finding of willfulness. In this regard, I note that willfulness is a fact-bound inquiry, requiring consideration of the totality of the circumstances. See *Studiengesellschaft Kohle, v. Dart Industries, Inc.*, 862 F.2d 1564, 1573 [9 USPQ2d 1273] (Fed. Cir. 1988). Prior to the damages phase of the trial, I determined that there was insufficient evidence for the jury to conclude by clear and convincing evidence that Nintendo had copied the Alpex patent. Notwithstanding this ruling, I find sufficient evidence to support a reasonable jury's finding of willfulness. More specifically, I note testimony by Alpex expert Mr. Robert Armitage that the only written opinion of counsel predating Nintendo's decision to infringe was preliminary and could not have formed the basis of a reasonable businessman's good faith belief that the NES did not infringe. This testimony was supported by the opinion itself, as well as a contemporaneous letter by Nintendo's inside general counsel Mr. Howard Lincoln, characterizing the opinion as preliminary. There was ample room for the jury to discredit the conclusory, conflicting and unsupported testimony of Nintendo executives to the effect that they had obtained a final opinion of counsel prior to making the decision to produce the NES and that they made that decision on the basis of a good faith belief that they were not infringing. Opinions of counsel received subsequent to the decision to produce the infringing product, although relevant as part of the totality of the circumstances, do not dictate a conclusion that the infringement was not willful. See *H.B. Fuller Co. v. National Starch & Chemical Corp.*, 689 F. Supp. 923, 952-53 [7 USPQ2d 1753] (D. Minn. 1988) (finding willfulness where infringer made decision to continue infringing before receiving opinion of counsel, and used opinion only to ratify its willful infringement). In sum, I find sufficient basis for a reasonable jury to find by clear and convincing evidence that NOA's infringement had been

willful. My confidence in the jury's willfulness conclusion is reinforced by the fact that the jury found willfulness on the part of NOA, but not by NCL. This verdict suggest that the jury took seriously the high quantum of proof required for this finding and that it parsed the evidence carefully. Indeed, as counsel for Nintendo argued, there was substantially less evidence from which the jury could have concluded that NCL executives (as opposed to their counterparts at NOA) lacked the requisite good faith belief that the NES would not infringe valid patent rights. Finding less conclusive evidence of NCL's intent, the jury reasonably determined that it could not conclude by clear and convincing evidence that NCL willfully infringed.

Even if the jury's willfulness conclusion were erroneous, I do not believe that presenting the jury with the issue tainted its verdict in any way. The jury was correctly instructed that its findings with respect to willfulness were not to inform its damage verdict. The jury is presumed to have followed this instruction, and Nintendo cites no basis for believing that it did not do so. As noted above, there is sufficient evidence in the record, apart from that relating to willfulness, upon which the jury could have based its calculation of damages. In sum, I sustain the jury's conclusion with respect to willfulness and find no basis for a remittitur, a new trial, or judgment as a matter of law in the fact that the question was submitted to the jury.

II. Enhanced Damages, Pre-judgment Interest, and Accounting for 1992-94 Infringing Sales.

*1206 As noted at the outset of the court's discussion of damages, Alpex moves for entry of judgment in an amount that, in addition to the jury's \$208,268,418 award, includes damages based on infringing sales conducted between December 1992 through May 1994, pre-judgment interest, and an enhancement of the award by 50%, or \$104,134,209, pursuant to 35 U.S.C. Section 284. Each of Alpex's proposed alterations to the jury's award is discussed in turn below. For the reasons specified below, the court grants Alpex's request for an accounting for 1992-94 infringing sales, the court grants Alpex's request for an award of additional damages in the amount of 6% of the amount identified by the aforementioned accounting, the court denies Alpex's motion for a 50% enhancement of the jury's damage award, and the court grants Alpex's motion for pre-judgment interest, such interest to be calculated as specified below.

A. Accounting for 1992-94 Infringing Sales.

Upon agreement of the parties, the jury verdict form directed the jury to specify the amount of damages adequate to compensate Alpex for Nintendo's infringement. The verdict form did not request the jury to specify the method it employed in calculating the award. As previously noted, the jury awarded \$208,268,418 in damages. Alpex had sought twice this amount, or 12% of the amount stipulated to as Nintendo's infringing revenues between October 1985 and November 1992, \$3,471,140,292. In the Final Joint Pre-Trial Order, Alpex stated that it would seek to recover damages for the infringing sales through November 30, 1992, and that it would seek an accounting to determine the amount of infringing sales between December 1, 1992 and the date of judgment. As part of its motion for entry of judgment, Alpex now seeks such an accounting for the period commencing December 1, 1992 through May 31, 1994, the day the patent expired. Alpex asks the court to enter judgment in an amount that includes 6% of the amount of infringing sales identified through this accounting. Failure to do so, Alpex argues, would effectively deprive it of eighteen months of its seventeen-year patent rights.

Nintendo argues that an additional award on the basis of post-November 1992 infringing sales is unwarranted. First, Nintendo asserts that there is no basis for concluding that the jury applied a 6% running royalty rate. Second, Nintendo reasserts the arguments it makes in support of a remittitur or judgment as a matter of law, claiming that the record evidence supports no verdict other than a paid-up lump sum ranging between \$400,000 and \$2,500,000. Neither of these arguments is well founded. Rounded to the nearest dollar, the jury's award is exactly 6% of the amount of infringing sales between October 1985 and November 1992. There is no basis in the record upon which the jury could have reached its verdict by determining that the hypothetical negotiators would have agreed to a lump-sum license fee of \$208,268,418. By contrast, as was discussed in connection with Nintendo's motions for a new trial; judgment as a matter of law, or a remittitur, a 6% running royalty is supported by substantial evidence, including the Nintendo-Magnavox license agreement. Accordingly, I find that the jury verdict reflects the jury's determination that the hypothetical negotiators would have agreed to a 6% running royalty. *See Trans-World Mfg. Corp. v. Al Nyman & Sons, Inc.*, 750 F.2d 1552, 1558 [224 USPQ 259] (Fed. Cir. 1984) (jury is assumed to have made findings

necessary to support its verdict). The jury calculated its award by multiplying the running royalty by the infringing revenues figure, arbitrarily determined as of November 30, 1992, the date of the most recent data available to Alpex. Complete compensation of Alpex requires that the 6% royalty rate be applied to infringing sales through the date the patent expired, May 31, 1994. [FN28] Accordingly, Nintendo is directed to submit, within 21 days of the date hereof, an affidavit from an officer of Nintendo of America setting forth the sales figures for the period December 1, 1992 through May 31, 1994 for all products which the parties have agreed are included within the revenue base at issue in the damages phase of this case.

B. Enhanced Damages.

Under 35 U.S.C. Section 284, "the court may increase the damages up to three times the amount found or assessed." No statutory standard governs such enhancement. It is generally committed to the sound discretion of the court, most often triggered by a finding that the infringement was wanton or willful, although such a finding does not *1207 mandate that damages be enhanced. *See Read Corp. v. Portec, Inc.*, 970 F.2d 816, 826 [23 USPQ2d 1426] (Fed. Cir. 1992). Enhancement must turn on consideration of all of the factors relevant to the egregiousness of the defendant's conduct. *Id.* Among factors that courts have considered relevant to this inquiry are (1) whether the infringer deliberately copied the invention; (2) whether the infringer investigated the patent and developed a good faith belief that it was not valid or infringed; (3) the infringer's behavior as a party to the litigation; (4) the defendant's size and financial condition; (5) the closeness of the case; (6) the duration of the defendant's misconduct; (7) any remedial action taken by the defendant; (8) the defendant's motivation for harm; and (9) whether the defendant attempted to conceal its misconduct. *Id.*, at 827. In support of its request for a 50% enhancement of the jury's award, Alpex cites (1) the jury's conclusion that NOA's infringement was willful, (2) Nintendo's conduct in the litigation, (3) Nintendo's size and financial condition, (4) the duration of Nintendo's conduct, (5) remedial action by Nintendo, and (6) Nintendo's motivation for harm. As set forth below, these factors provide insufficient basis for enhancement of damages in this case.

First, I have carefully reviewed the jury's finding of willful infringement. Although I find sufficient evidence to conclude that the jury reasonably reached this conclusion, I remain of the view that this is a

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close case, both as to willfulness and the underlying questions of infringement and validity. I am respectful of the jury's apparent assessment of the credibility of NOA executives, but I am also mindful that the willfulness evidence contains no "smoking gun." There is insufficient evidence to support a finding by clear and convincing evidence that Nintendo copied the patent; and there is no conclusive documentary evidence that Nintendo purposefully determined to engage in infringing activities. The case raises several difficult questions relating to claim construction and infringement under section 112(6) and the doctrine of equivalents. Both the court and the special master struggled mightily with these issues, which have been the subject of evolving legal doctrine during the eight-year pendency of this litigation and remain uncertain in light of pending *en banc* appeals. In this factual and legal context, I cannot conclude that this case presents the same kind of egregious conduct that other court have concluded called for enhanced damages.

For substantially the same reasons, I find that both the duration of Nintendo's infringement and its aggressive pursuit of its rights in this litigation were warranted. Alpex specifically complaints that Nintendo delayed trial of the case until expiration of the patent in order to avoid an injunction pursuant to 35 U.S.C. Section 283. Although a number of motions filed by Nintendo did have the effect of postponing trial, the delay was primarily attributable to the complexity of the case and the fact that the court's docket has been inordinately crowded in recent years due to a large number of judicial vacancies in this district. Alpex also complains that a number of last-minute changes in Nintendo's trial strategy forced it to conduct numerous depositions just prior to and during trial, at great expense and inconvenience. I did permit Nintendo to make a number of significant alterations in its trial strategy both prior to and during trial. I permitted this modification in trial strategy in order to obtain a full and fair trial of the issues in the case. In each instance, a condition of granting Nintendo's request was that Alpex would be afforded whatever discovery or procedure was necessary to avoid prejudicing its interests. Although these procedures may have resulted in some inconvenience for Alpex, the outcome of the trial assures me that Alpex's interests were not compromised. I am confident that Alpex suffered no undue hardship during trial and see no reason to enhance the damage award due to the stress and strain that normally and justifiably accompanies high-stakes litigation. In sum, I cannot

conclude that there is a sufficient basis for enhancement in the evidence of willfulness or any of the other relevant factors. Alpex's motion for a 50% enhancement of the damage award is therefore denied.

C. Prejudgment Interest.

In addition to the 50% enhancement discussed above, Alpex moves for prejudgment interest on the damages awarded by the jury and those determined through an accounting. Nintendo objects both to any award of pre-judgment interest, and to the method of calculating such interest proposed by Alpex. For the reasons set forth below, the court grants Alpex's motion for pre-judgment interest. Such interest shall be calculated as specified below.

The statute governing patent damages provides that a district court shall award damages to compensate for the infringement, "together with interest and costs as fixed by the court." 35 U.S.C. Section 284. The Supreme Court has interpreted this provision as follows:

***1208** The standard governing the award of prejudgment interest under section 284 should be consistent with Congress' overriding purpose of affording patent owners complete compensation. In light of that purpose, we conclude that prejudgment interest should ordinarily be awarded. In the typical case an award of prejudgment interest is necessary to ensure that the patent owner is placed in as good a position as he would have been in had the infringer entered into a reasonable royalty agreement. An award of interest from the time that the royalty payments would have been received merely serves to make the patent owner whole, since his damages consist not only of the value of the royalty payments but also of the foregone use of the money between the time of infringement and the date of the judgment.

General Motors Corp. v. Devex Corp., 461 U.S. 648, 653, 654 [217 USPQ 1185] (1983). The court noted, however, that section 284 does not require an award of prejudgment interest. Such interest may be limited or denied under certain circumstances, where, for example, the patentee is responsible for undue delay in litigating the case. Id. at 657-58.

[12] Applying the foregoing standard, I find that prejudgment interest is warranted in the instant case. In opposition, Nintendo claims that unlike the usual case, prejudgment interest is not necessary in

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this case due to the size of the jury's award. Nintendo argues that the jury's award alone is sufficient to place Alpex in as good a position as if it had negotiated a reasonable royalty with Nintendo prior to the infringement. This argument is nothing more than a reiteration of its argument in support of a remittitur, new trial, or judgment as a matter of law. At its foundation is Nintendo's continual assertion that the reasonable royalty Alpex would have negotiated in 1985 was a \$400,000 lump-sum payment. Nintendo argues that "the jury's punitive award of over \$208 million places Alpex in a position vastly *superior* to the position Alpex would have been in if Nintendo had entered into a license agreement rather than exercise its right to challenge the patent." Nintendo's Mem. in Opposition to Alpex's Motion for Entry of Judgment, 23. The jury was instructed that it was to determine damages as the amount adequate to compensate Alpex, and that it was not to award damages to punish Nintendo. The jury is presumed to have followed those instructions. Moreover, as noted *supra*, a reasonable jury could have concluded that the reasonable royalty or amount to compensate Alpex is a 6% running royalty, setting compensatory damages at \$208,268,418. Accordingly, I find that the jury's award in this case was limited to compensatory damages. In light of these findings, prejudgment interest on the jury's award is appropriate. Cf. *Beatrice Foods, Co. v. New England Printing & Lithographing Co.*, 923 F.2d 1576, 1580-81 [17 USPQ2d 1553] (Fed. Cir. 1991) (prejudgment interest may be based only on the compensatory portion of the damages award, not on the punitive, enhanced portion of the award).

There remains the contentious question of how prejudgment interest should be calculated. The parties disagree over (1) which interest rate should be used; (2) whether interest should be calculated on a pre-tax or post-tax basis; and (3) what is the timing of the royalty payments on the basis of which the interest should be calculated. The court addresses each of this issues below, concluding that interest should be calculated on year-end royalty payments, and on an after-tax basis, using the commercial paper rate, as proposed by Nintendo.

With respect to the appropriate interest rate, Alpex advocates the prime rate plus 1%, while Nintendo promotes either the Treasury Bill rate or the defendant's borrowing rate, which it maintains is the commercial paper rate. The interest rate at which prejudgment interest is calculated is within the sound

discretion of the district court. See *Bio-Rad Laboratories, Inc. v. Nicolet Instrument Corp.*, 807 F.2d 964, 969 [1 USPQ2d 1191] (Fed. Cir. 1986), cert. denied, 482 U.S. 915 (1987). Sitting by designation in the Northern District of Illinois, Court of Appeals Judge Easterbrook has recently held that prejudgment interest should be analyzed as if the patentee had lent funds to the infringer during the pendency of the litigation. See e.g., *In re Mahurkar Double Lumen Hemodialysis Catheter Patent Litigation*, 831 F.Supp. 1354, 1394-95 [28 USPQ2d 1801] (N.D.Ill. 1993). Judge Easterbrook recommends calculating prejudgment interest at a rate that is adequate to compensate the patentee for the risk he incurs in giving the infringer a "large, involuntary, unsecured loan to a debtor of uncertain creditworthiness that is doing its utmost to avoid paying." *Id.* at 1394. I find this analysis persuasive, particularly where, as here, there is no evidence relating to the use to which the patentee would have put the royalty payments. Accordingly, I have decided to follow Judge Easterbrook's recommendation. Nonetheless, I do so cautiously for two reasons. First, pinning the interest rate to the level of risk the patentee faces in *1209 litigation could result in infringers paying more in prejudgment interest, the better their case for non-infringement. Penalizing infringers for mounting aggressive defenses in close cases does not serve the interests of patent law. Even more troubling is the fact that Judge Easterbrook's analysis of the appropriate interest rate could risk duplicating courts' analyses of willfulness and punitive enhancement of damages. This potential for duplication is reflected in Alpex's argument that the protracted and comprehensive nature of the litigation justifies calculation of prejudgment interest at the prime rate plus 1%. Such reference to the length of the litigation, and inevitably to the parties' conduct in litigation, risks impermissibly turning the interest calculation into a punitive, as opposed to a compensatory, measure. [FN29] Notwithstanding his discussion of the substantial risk associated with a patentee's loan to an infringer, Judge Easterbrook advises calculating interest at the market rate the infringer generally pays for money, perhaps in implicit recognition of the foregoing considerations. *In re Mahurkar*, 831 F. Supp. at 1395. Similarly here, I have concluded that prejudgment interest should be calculated on the basis of Nintendo's borrowing rate. I find persuasive the uncontested testimony of Nintendo's expert, Mr. Robert Sherman, to the effect that the appropriate measure of Nintendo's borrowing rate is the commercial paper rate. I conclude, therefore, that the commercial paper rate should serve as the rate for calculation of prejudgment interest in

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this case. [FN30] The parties next debate whether prejudgment interest should be calculated on an after-tax or pre-tax basis. Alpex proposes calculating prejudgment interest on a pre-tax basis, arguing that a pre-tax rate of the prime rate plus 1% is an accurate proxy for the after-tax return Alpex would have made on its investments of the royalty payments. Alpex provides no other argument in support of calculating interest on an after-tax basis, arguing merely that such calculation is its prerogative. As Alpex's expert testified, however, as a matter of "pure economics," prejudgment interest should be calculated on an after-tax basis. Because Alpex would have had to pay taxes on any profits it earned, it lost the time-value of money on only the after-tax amounts of unpaid royalty payments. Courts' refusal to calculate prejudgment interest on an after-tax basis in other cases is typically a function of technical difficulties relating to after-tax calculation that are not as troublesome here. See e.g., *Polaroid Corp. v. Eastman Kodak Co.*, 16 U.S.P.Q.2d 1481, 1540 (D. Mass. 1990). Although Alpex complains that determination of Alpex's effective tax rate is difficult, it identifies no errors in Mr. Sherman's after-tax calculation of prejudgment interest. I find that Mr. Sherman's after-tax calculation presents the economically most accurate measure of prejudgment interest due to Alpex. Noting no legal impediment to that conclusion, I will adopt his analysis as authoritative in this case.

The parties' final difference over prejudgment interest relates to the assumed timing of royalty payments. Nintendo's Mr. Sherman maintains that the royalty payments should be assumed to be paid at the end of each year in which the underlying revenues were made. Alpex's Mr. Willis advocates a mid-year payment assumption, effectively assuming that six-month's worth of royalties are paid after they are earned, and six-month's worth of royalties are paid before *1210 they are earned. Nintendo complains that Mr. Willis' analysis is the equivalent of assuming royalty payments were made on a daily basis, and that his method artificially inflates prejudgment interest by \$15,000,000. Alpex responds that its calculation conservatively estimates a quarterly royalty payment schedule, and that such a schedule is reasonable in light of the fact that Nintendo's own license agreements generally specified such payments. To make its point, Alpex compares the prejudgment interest resulting from its mid-year calculation with higher figures allegedly resulting from a quarterly payment assumption. Unfortunately, as Nintendo points out, Alpex's comparison is misleading because it fails to keep the effective

annual rates constant for purposes of both the mid-year calculation and the quarterly calculation. Therefore, I cannot conclude that Alpex's mid-year convention accurately approximates a quarterly payment schedule. I believe that it is fully within my discretion to accept the more straightforward, year-end calculation proposed by Nintendo.

To summarize, I find that an award of prejudgment interest is warranted. Such interest shall be calculated on an after-tax, year-end basis at the commercial paper rate. According to the testimony of Mr. Sherwin, which I accept as authoritative, prejudgment interest on the jury's verdict through August 1, 1994 is \$37,220,311. Interest on the jury's verdict from August 1, 1994 to the date of judgment will be addressed by Mr. Sherwin in the supplemental affidavit ordered herein. In addition, Alpex is entitled to interest on the 6% royalties payable on Nintendo's infringing revenues between December 1, 1992 and May 31, 1994. Within 21 days of the date hereof, Nintendo shall submit a supplemental affidavit by Mr. Sherman, or such other qualified expert, specifying prejudgment interest (calculated in accordance with the ruling herein) on royalties payable on its infringing revenues between December 1992 and May 1994.

CONCLUSION

For the reasons set forth above, the court denies Nintendo's motions for judgment of non-infringement and judgment of invalidity as a matter of law; the court denies Nintendo's motion for a new trial on liability; and the court also denies Nintendo's motion for a remittitur, new trial, or judgment as a matter of law with respect to damages. Alpex's motion for entry of judgment is granted in part and denied in part. Specifically, the court grants Alpex's motion for an accounting with respect to Nintendo's infringing revenues between December 1, 1992 and May 31, 1994. Judgment shall be entered in an amount that, in addition to the jury's award, includes 6% of Nintendo's infringing revenues during the period between December 1, 1992 and May 31, 1994. The court also grants Alpex's motion for pre-judgment interest, directing that such interest be calculated on year-end royalty payments, and on an after-tax basis, using the commercial paper rate, as proposed by Nintendo. Alpex shall also be entitled to prejudgment interest on the 6% of Nintendo's infringing revenues between December 1, 1992 and May 31, 1994, to be determined through the aforementioned accounting. Finally, the court denies Alpex's motion for a 50% enhancement of the jury's verdict. Within 21 days of the date hereof, Nintendo shall submit (1) an

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accounting of its infringing revenues between December 1, 1992 and May 31, 1994, and (2) a supplemental affidavit specifying the prejudgment interest on the 6% royalty payments due on these additional revenues. Within one week of Nintendo's submission, the parties shall submit a joint proposed judgment in accordance with the court's ruling herein. In the event that the parties fail to agree upon a joint proposed judgment, they shall each submit a proposed judgment for the court's consideration.

SO ORDERED.

FN1 The complaint alleged infringement of claims 12, 13, 14, and 17, but in a pre-trial stipulation Alpex dropped its claims with respect to claims 14 and 17.

FN2 Because a Rule 50(b) motion involves procedural issues not unique to patent law, the Federal Circuit looks to decisions of the regional circuit, here the Second Circuit, for the standard applicable to such a motion. *See Sjolund v. Musland*, 847 F.2d 1573, 1576 [6 USPQ2d 2020] (Fed. Cir. 1988).

FN3 Claim 12 provides:

Apparatus for playing games by displaying and manipulating player and ball image devices on the screen of a display tube, comprising

first means for generating a video signal representing a linear player image device aligned in a first direction,

second means for generating a video signal representing a ball image device, a ball image device

manually operable game control means, and

means responsive to said manually operable game control means for causing said first means to generate a video signal representing the player image device rotated so that it is aligned in a second direction different from said first direction.

Claim 13 provides:

Apparatus according to claim 12, wherein said means for causing includes programmed microprocessor means and a replaceable memory having program game instructions stored therein for controlling said microprocessor means, whereby different games may be played with said apparatus by

replacing said replaceable memory.

FN4 In letters sent to the court subsequent to briefing on the motion to reconsider, it became apparent that the parties were in agreement that the court correctly construed the claims as the structure set forth in Figure 2 of the patent. Their dispute regarding claim construction was limited to whether and how that construction should be further refined.

FN5 As noted *supra*, 35 U.S.C. Section 112(6) requires construction of claims as covering the structure set forth in the specification and equivalents thereof. The Special Master's Supplemental Report was limited to construction of the structure set forth in the specification; he did not purport to identify "equivalents" to that structure. Special Master's Supplemental Report, at 2.

FN6 In its motion for a new trial, Nintendo argues that the phrasing of this question on the jury verdict form erroneously focused the jury's attention on the physical element of the structure, rather than the way in which those elements operate together. This objection is not well founded. First, use of the word "correspond" is suggestive of the way in which the physical elements work together. Second, this precise language, taken directly from the patent specification, was invoked on numerous occasions by counsel for Nintendo, as well as numerous technical witnesses, as long-hand for a video display system that operates by means of a bitmap. (Tr. at 693, 695, 1937-38, 1978-79, 3341) Nintendo cannot now plausibly be heard to argue that the jury may have thought this language referred to something other than what it had labeled a "bit-map" system. Finally, my instructions specifically directed the jurors to consider the way in which the systems operate in conjunction with their analysis of equivalents under both section 112(6) and the doctrine of equivalents. (Tr. 3971-72).

FN7 As explicitly stated by the Special Master, this construction excludes "equivalents" under 35 U.S.C. Section 112(6), discussed *infra*.

FN8 In this regard, the court notes that claim

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13 explicitly requires replaceable memory. Although claim 12 contains no explicit reference to replaceable memory, for the reasons stated above, the jury could reasonably construe claim 12 as containing a memory element that can be either replaceable or resident.

FN9 As the Special Master noted in the Supplemental Report adopted by the court, "structure" includes the manner in which component parts are assembled and how they work together. *See* Special Master's Supplemental Report, at 16.

FN10 As noted *supra*, throughout trial Nintendo urged the court to construe the video display technology in the '555 patent as a "bit-map" technology, to be distinguished from the PPU, which Nintendo described as "on-the-fly" technology. In this Supplemental Report adopted by the court, the Special Master rejected this terminology as too simplistic, choosing instead to construe the display technology in greater detail as set forth *supra*. I agree with the Special Master that the terms "bit-map" and "on-the-fly" are insufficient as claim construction. Thus, although I declined to adopt the Special Master's recommendation in instructing the jury, I avoided using the "bit-map" and "on-the-fly" terminology in the jury verdict form, choosing rather to ask the jury to determine whether the '555 patent required a structure that corresponds to a "bit-map" system. Nonetheless, for ease of reference, I will refer to the video display technology disclosed in the '555 patent as a "bit-map" system, and to the PPU as an "on-the-fly" system.

FN11 In this regard, I note that *Lear Siegler* did not involve means-plus-function claims requiring analysis of equivalents for purposes of both literal infringement and infringement under the doctrine of equivalents. *See Lear Siegler*, 873 F.2d at 1423.

FN12 Alpex argues that there is no requirement that a document show all elements of the invention to constitute corroboration. Alpex's Reply Memorandum in Opposition to Nintendo's Motion for Judgment of Patent Invalidity, at 3

(hereinafter, "Alpex's Invalidity Rep. Mem."). In finding the July 21, 1974 notes alone insufficient to corroborate a July 21 conception date, the court does not intend to create such a requirement. There is no requirement that corroboration be in the form of a document, nor must a corroborating document show the patent elements with the amount of specificity generally found in a patent specification. As Alpex aptly points out, such a requirement would effectively collapse the distinct concepts of "conception" and "reduction to practice." Nonetheless, the corroborating evidence must be sufficiently detailed to confirm that the inventors did in fact have a complete and firmly established conception of every element of the invention. *See e.g. Coleman*, 754 F.2d at 360.

FN13 This conclusion is not altered by evidence of the use of replaceable ROM in either arcade versions of FRED (Tr. 2358) or later models of the home FRED system. A reasonable jury could find the former distinguishable from the invention disclosed in claims 12 and 13 of the '555 patent; and the latter came after the date of invention for the Alpex invention (regardless of whether that date is July 21, 1974 or October 10, 1974).

FN14 In support of its claim of commercial success, Alpex cites evidence that Channel F was well received at a Consumer Electronics Show in 1976. This evidence goes to "praise by others in the art," a separate secondary consideration, the presence of which Nintendo does not contest. Alpex cannot double-count this evidence, finding in it substantial evidence of commercial success as well.

FN15 A reasonable jury could conclude that the FRED arcade system, which employed ROM beginning in 1974 (Tr. 2358), was not analogous to the invention disclosed in the '555 patent.

FN16 Nintendo also argues that there was insufficient evidence that the need for the Alpex invention had been felt for a long enough period of time to warrant crediting the invention with satisfying a long-felt need. As Alpex notes, however, the length

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of time necessary for a finding of long-felt need must be determined on a case-by-case basis, taking into consideration particularities of the industry. In this case, the jury could have reasonably identified a need for the Alpex invention beginning in 1972, when the limitations of the Odyssey game became apparent. The court cannot conclude as a matter of law that two years does not reflect a long-felt need in the electronics industry.

FN17 To augment the record on departure from industry principles, Alpex emphasizes (1) Mr. Lawson's praise for the Alpex invention, and (2) the fact that its inventors were able to design a system with replaceable ROM before others in the art. In citing this evidence, Alpex confuses departure from accepted principles with praise in the art, failure by others, and long-felt need. A patentee should not obtain credit toward a finding of non-obviousness merely by recharacterizing the same evidence in terms of another secondary consideration. Having considered the evidence in conjunction with other, more appropriate factors of non-obviousness, I will not consider it in my review of the jury's finding of departure from industry principles.

FN18 Prior to the damages phase of the trial, Nintendo moved *in limine* to exclude evidence of copying. At that phase of the trial the standard of proof applicable to the copying allegation was "clear and convincing evidence," as opposed to the "preponderance of the evidence" that governed at the liability phase. Noting the distinction in the standard of proof, I granted Nintendo's motion to exclude the copying evidence at the damages phase, notwithstanding my decision to admit the evidence in during the liability phase.

FN19 To the court's interrogatory, asking the jury whether the patent requires "a structure that includes a display RAM which has discrete storage positions which correspond to each of the bars or pixels of the TV screen," Nintendo proposed adding "as well as the other components of Figure 2, including ROM 42A, ROM 42B, microprocessor 40, display RAM address 34, RAM write control 38 and TV interface

36." Memorandum of Law in Support of Nintendo's Motion for a New Trial, 10.

FN20 Contrary to the patent claims at issue in *Laitram*, in this case, both claims being differentiated are means-plus-function claims. Nonetheless, claims 12 and 13 might be construed to cover a broader range of equivalents than claims 1 through 11, in that the latter are constrained by their narrowly specified functions.

FN21 Several jurors made comments indicating a lack of enthusiasm for returning to serve during the damage phase of the trial. I note that all of the jurors appeared good-natured overall throughout both phases of the trial, and the remarks made upon hearing that their service would continue were quickly followed by a resumption of polite attention to the court.

FN22 Nintendo explicitly reserved its objection to the court's initial decision regarding the other two categories of evidence, but its briefing was limited to reconsideration of the first category of evidence.

FN23 The seven sets of evidence for which Nintendo sought reconsideration of the Court's Rule 408 Opinion were as follows: 1) Alpex's industry-wide license offers; 2) evidence concerning firms as to which Alpex confirmed there was no infringement; 3) evidence concerning firms which responded to Alpex's industry-wide offers stating that they were not infringing, and concerning which Alpex made no further investigation; 4) evidence concerning firms as to which Alpex confirmed there was no infringement; 3) evidence concerning firms which responded to Alpex's industry-wide offers stating that they were not infringing, and concerning which Alpex made no further investigation; 4) evidence concerning the offer made by Alpex to Datasoft after stating that Datasoft was not in fact infringing, including Datasoft's response to Alpex's August 22, 1983 letter; 5) evidence of standard offers made by Alpex without any claim of infringement to firms that initiated contact with Alpex; 6) evidence of Alpex's publicity materials concerning its licensing arrangements; and 7) Alpex's

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Bankruptcy Court filings describing the value of Alpex's patents.

FN24 In a related opinion regarding waiver of the attorney-client privilege, the court summarized the Rule 403 Opinion as reversing the Rule 408 Opinion with respect to five of the seven categories of evidence. This statement was incorrect in part, in that in the Rule 408 Opinion the court had not explicitly addressed one of the seven categories, the Bankruptcy Court statements. To clarify, in its Rule 403 Opinion, the court held that of the six categories of evidence reconsidered, only the publicity materials should be excluded under Rule 408. The court held further that the publicity materials, the other five categories of evidence reconsidered, and the Bankruptcy Court filings should be excluded under Rule 403. As is explained below, this decision was subsequently altered prior to trial.

FN25 When Nintendo raised this objection at trial, the court offered to give a curative instruction which would have eliminated any prejudice to Nintendo by explaining to the jury that Alpex had granted licenses to other companies prior to 1985. Nintendo declined the instruction.

FN26 Evidence of these settlement agreements is distinguishable from the evidence of Alpex's industry-wide licensing offers, which I admitted on reconsideration. Alpex made its industry-wide offers without having given prior notice of its patent or its claim of infringement, and, in many instances, without having even developed a reasonable belief that it had such a claim. Such offers, made before the parties could be said to be joined in a dispute, were nothing more than the opening gambit in business negotiations. By contrast, the license agreements that the court excluded under Rule 408 were each consummated after infringement claims and litigation threats were made. In some instances, settlement was not reached until after litigation had actually commenced. In each case, the parties were locked in a dispute, which the agreement served to resolve.

FN27 In reaching this conclusion, I am conscious of the fact that, unlike the

industry-wide offers, this offer was made by one party to this action to the other. In such circumstances, the concerns underlying Rule 408 are particularly acute.

FN28 In its complaint, Alpex sought injunctive relief as well as damages. The jury's verdict in the liability phase of the trial was not handed down until after the patent expired, however. Although delay in trial of the case rendered Alpex's request for injunctive relief moot, it is entitled to damages for infringement to the expiration date of the patent.

FN29 See *Beatrice Foods Co.*, 923 F.2d at 1580 ("prejudgment interest is designed 'to compensate for the delay a patentee experiences in obtaining money he would have received sooner if no infringement occurred,' while 'on the other hand damages are trebled as punishment.' ") (quoting *Paper Converting Machine Co. v. Magna-Graphics Corp.*, 745 F.2d 11, 23 | 223 USPQ 591 | (Fed. Cir. 1984)); *Bio-Rad Laboratories*, 807 F.2d at 967-68 (district court's exercise of discretion in calculating prejudgment interest "must be guided by the purpose of prejudgment interest, which is to ensure that the patent owner is placed in as good a position as he would have been had the infringer entered into a reasonable royalty agreement."); *In re Mahurkar*, 831 F. Supp. at 1394 ("Interest is not a 'penalty' of any kind; it simply represents the time value of money and is an element of complete compensation, putting the victim in the position it would have occupied had there been no wrong.").

FN30 In reaching this conclusion, I have also considered the question in terms of what Alpex would have done with royalty payments from Nintendo over the past eight years. In this regard, I find too speculative the testimony of Alpex expert Mr. Stephen Willis, (1) that Alpex would have either (a) emerged from bankruptcy and engaged in riskier investments similar to its historic investments, or (b) invested the royalty payments in intermediate government bonds; and (2) that a pre-tax rate of the prime rate plus 1% is an accurate proxy for the after-tax return Alpex would have made in either case. In the absence of any concrete

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evidence of Alpex's investment opportunities, I believe that the commercial paper rate provides a fair measure, not only of Nintendo's borrowing rate, but also of Alpex's lost investment opportunities over the course of this litigation. Indeed, it provides a better return than the Treasury Bill rate, a rate that courts often employ, and that fairly reflects the type of low-risk investment that Alpex's bankruptcy trustee would likely have made.

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